ABSTRACT OF THE DISCLOSURE

A system and method for effectively and efficiently retransmitting data frames, which were inadequately received by a receiver, back to the receiver for combination with the inadequately received data frames to increase gain at the receiver. The system and method preferably uses an R-Rake retransmission technique while eliminating the need to transmit a signaling message to a receiver for identifying the data frames to be combined as in the conventional R-Rake technique, and employs a data transmitter and a controller. The data transmitter transmits data in data frame format to be received by a receiver. Upon receiving a retransmission request from the receiver, the controller controls the data transmitter to retransmit a particular data frame to the receiver without transmitting a signaling message. The receiver receives the retransmitted data frame and compares it to other data frames stored in a buffer to determine the likelihood of a match between the transmitted data frame and a buffered data frame. When the likelihood of a match exceeds at least one predetermined threshold, the receiver combines the retransmitted data frame with the matching data frame, and provides the combined data frame to a higher layer in the receiver. However, if the likelihood of a match is below any of the predetermined thresholds, the receiver stores the either the combined data frame, or the retransmitted and matching data frame in the buffer, depending on which threshold the probability of a match is below, and sends another retransmission request to the transmitter to again retransmit the data frame. Accordingly, gain at the receiver can be increased without a substantial increase in signaling overhead.